ERIC Document Resume	See Instruction Sheet	DATE OF RESUME 8/8/65	DATE RECEIVED

A. PUBLICATION DATA

1. ACCESSION NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.
ED001621	N.A.	N.A.

DO NOT WRITE IN SPACE BELOW

4. AUTHOR(S):
School District of Philadelphia

5. TITLE OF DOCUMENT ABSTRACTED:
Early Indications of Academic Talents
Report of Class Graduating in June 1964

6. PUBLICATION TITLE:
Bulletin 545, Division of Educational Research

7. EDITOR(S):
N.A.

8. PLACE OF ORIGIN
ORG. School District of Philadelphia, Pa.
ST. CITY, STATE Philadelphia, Pa.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
School District of Philadelphia
Department of Superintendence

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
N.A.	N.A.	2/65	5

MICROFILM COPY AVAILABLE YES [X] NO [ ]

COPYRIGHT GRANTED YES [ ] NO [X]

COPYRIGHT RELEASE FILED YES [ ] NO [ ]

TYPE OF REPORT
PROPOSAL [ ]
IN-PROGRESS [ ]
FINAL [X]
FOLLOW-UP [ ]

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR
report

16. INDEXING TERMS (6-12)

aptitude tests	student abilities	secondary education	
achievement prediction	ability identification	junior high school	
guidance counselors	predictive measurements	academic achievement	
		tests-measurements	Philadelphia, Pa.

17. ABSTRACT (MAX. 250 WORDS)

The aim was to determine the accuracy of test scores in predicting future achievement. A somewhat sharper agreement was found between early predictive factors and school marks in grade 9 than between these factors and school marks in grades 11 and 12.

Two reasons for this difference are cited. If a prediction for a pupil is made at grade 6, a certain degree of ability change will take place by grade 9, but a greater degree of ability change will be likely by grades 11 or 12. School marks in grade 9 probably reflect the students' ability, whereas the marks in grades 11 and 12 reflect to a greater extent the pupil's willingness to spend his time in home-study, a necessary activity for high marks.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION,	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OR PROJECT	U.S. Department of Health, Education, and Welfare Office of Education

ERIC Form 1

ED001621

SCHOOL DISTRICT OF PHILADELPHIA, DEPARTMENT OF SUPERINTENDENCE

Division of
Educational
Research

Bulletin 585

EARLY INDICATIONS OF ACADEMIC TALENTS
REPORT OF CLASS GRADUATING IN JUNE 1964

February 19, 1965

Philadelphia

To what extent can existing test scores be used to estimate the likelihood that a given pupil will do above-average work in an academic program in high school?

In May 1961, a study was made of the records of approximately 500 pupils enrolled in grade 9A in January 1961 in Central High School, Philadelphia High School for Girls, and Masterman Junior High School, and in academic courses in Beeber and Fels Junior High Schools. (Some Early Indications of Academic Talents, May 9, 1961). In June 1964, a follow-up study was made of the pupils included in the May 1961 study.

The following table shows the number of graduates, failures, drop-outs, and pupils dropped for other reasons.

Graduated		401
Academic Courses	360	
Non-Academic Courses	41	
Retarded - still in high school		36
Dropouts		4
Transfers to Private or Parochial Schools		10
Moved from the City		39*
	Total	492

* In computing percentages in Tables I to V these 39 pupils were omitted from the base, since they had left the city.

Graduating class averages were computed in the schools on the basis of eleventh and twelfth grade marks as prescribed in RECOMMENDATIONS OF COMMITTEE ON GRADUATING CLASS AVERAGES, RANKINGS AND BOARD OF EDUCATION SCHOLARSHIP CANDIDATE LISTING, MAY 14, 1963.

Tables I to V, which follow, show the relationships between graduating class averages from academic courses and the best available predictor at the various grade levels. For year 1 the IQ can be used as the predictor, since few other test scores are available. In grades 2 to 8, the median test score for the preceding two years should be used.

REPRINTED BY PERMISSION
U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN PRINTED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

In interpreting the prediction tables that follow, it is necessary to take into consideration the fact that only academic pupils in the schools listed on page one were included. Therefore, few pupils with a low IQ or below-average achievement were included in the study.

Table I is based on a total of 345 cases for whom a first grade IQ was available. As we get nearer grades 11 and 12, more cases with complete records become available. Thus for Table V, 453 cases with seventh and eighth grade test scores were available.

Table I is based on one IQ score, obtained by a group test in the first grade. While it has some predictive value, the table, with only 72 cases at the 130 IQ level, shows a slight inconsistency in the percents with A average. The percents in the other tables are consistent at all levels.

TABLE I - PUPILS IN YEAR 1

The kindergarten or first year IQ has some predictive value for the graduating class average, as shown in the table below.

	Kindergarten or Grade 1 IQ			
	100 or Below	110	120	130
(Cases) (Total 345)	(73)	(91)	(109)	(72)
Percent with A Average*	5	9	24	22
Percent with B Average*	32	45	36	45
Total Percent (A & B)	37	54	60	67

While an IQ obtained near the entrance to year 1 cannot be very reliable as a prediction of the marks that will be received in an academic course in grades 11 and 12, it is interesting to note that even at this early age the test does have some ability to discriminate between average pupils and pupils well above average.

The table above shows that of the 73 pupils with IQ's of 100 or below, 5 percent were graduated from an academic course with an average of A in grades 11 and 12. Thirty-seven percent were graduated with an average of A or B. Of the 72 pupils with IQ's of 130, twenty-two percent were graduated with an A average and 67 percent with an average of A or B.

In interpreting this table, it should be recognized that because of the select nature of the group studied, very few IQ's below 100 were included.

---

* A or B average in the graduating class in an academic course

TABLE II - PUPILS IN YEAR 2

Test Medians in Standard-Score Units Above Age Line

	One or Less	Two	Three	Four
(Cases) (Total 396)	(148)	(137)	(75)	(36)
Percent with A Average	4	18	24	33
Percent with B Average	37	37	52	56
Total Percent (A & B)	41	55	76	89

By the time a pupil approaches the end of the second year he has a total of nine test scores on the graph side of his cumulative record. A diagonal line on this graph indicates the average score of pupils at each age. The categories in the table above represent a pupil's median test score in terms of its deviation from this age line.

The test scores plotted on the graph by the latter part of the second year show more predictive value than the IQ's obtained at the beginning of year 1. For example, 59 percent (100 - 41) of pupils enrolled in academic courses in grade 9 whose test scores in grade 2 had been one or less standard-score units above the age line failed to reach graduation from an academic course with an average of A or B, as compared with only 11 percent of such pupils who had had a second grade test score median four units above the age line.

Tables III, IV, and V, which use the test scores of the last two years as predictors, show progressively increasing accuracy of prediction by test score medians as we move up through the grades.

TABLE III - PUPILS IN GRADES 3 AND 4

Test Medians in Standard-Score Units Above Age Line

	One or Less	Two	Three	Four
(Cases) (Total 435)	(120)	(120)	(135)	(60)
Percent with A Average	1	10	23	38
Percent with B Average	27	44	49	47
Total Percent (A & B)	28	54	72	85

As an illustration of prediction at this grade level, Table III, for the end of year 3, shows the relationship between median test scores in grades 2 and 3 and graduating averages in academic courses.

TABLE IV - PUPILS IN GRADES 5 TO 7

Test Medians in Standard-Score Units Above Age Line

	At Age Line or Below	One	Two	Three	Four	Five
(Cases) (Total 448)	(22)	(41)	(64)	(121)	(138)	(62)
Percent with A Average	0	0	0	6	25	47
Percent with B Average	9	24	36	44	49	40
Total Percent (A & B)	9	24	36	50	74	87

Table IV shows the prediction from the test scores in grades 5 and 6.

TABLE V - PUPILS IN GRADE 8

Test Medians in Standard-Score Units Above Age Line

	Below Age Line	At Age Line	One	Two	Three	Four or Five
(Cases) (Total 453)	(16)	(36)	(56)	(124)	(130)	(91)
Percent with A Average	0	0	0	3	19	46
Percent with B Average	12	14	29	40	57	41
Total Percent (A & B)	12	14	29	43	76	87

Because of a leveling off in the growth rate of some of the fundamental skills tested in grades 7 and 8, there are not so many pupils with test score medians four or five units above the age line as were shown in Table IV, based on test scores of grades 5 and 6.

The 1961 study referred to on page 1 showed the relationship between average marks in academic courses in grade 9 and IQ's or median test score ratings. A comparison of the 1961 and 1964 studies indicates that there is a somewhat sharper agreement between early predictive factors and school marks in grade 9 than there is between these factors and school marks in grades 11 and 12.

There are probably two reasons for the fact that the prediction at the eleventh and twelfth grade levels cannot be made as accurately at some grade, e.g., grade 6, as the prediction of marks in grade 9.

In the first place, if a prediction for a pupil is made at grade 6, a certain degree of change in ability would take place by grade 9, but a greater degree of change in ability would be likely to take place by grades 11 and 12.

In the second place, it is probable that the marks in grade 9 were quite heavily influenced by the pupil's present ability, whereas the marks in grades 11 and 12 reflected to a greater extent the pupil's willingness to devote to home study the amount of time necessary to secure very high marks in these later years.

WILLIAM M. DUNCAN
Associate Superintendent

W. WALKER CHEYNEY
Director